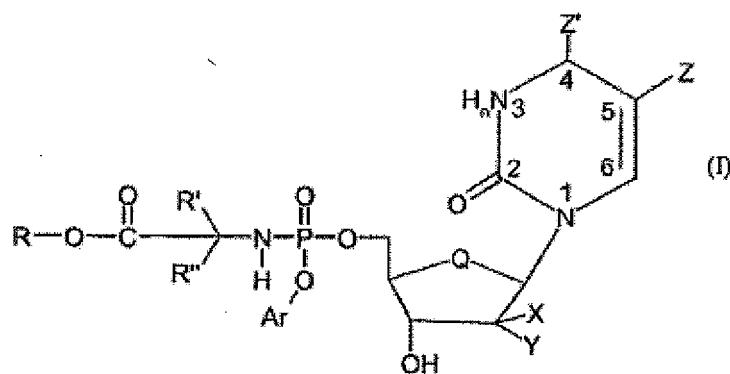


Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in this Application:

Listing of Claims:

1. (Currently amended) A chemical compound having formula I:



wherein:

R is selected from the group comprising alkyl, aryl and alkylaryl;

R' and R" are independently selected from the group comprising H, alkyl and alkylaryl, or R' and R" together form an alkylene chain so as to provide, together with the C atom to which they are attached, a cyclic system;

Q is selected from the group comprising -O- and -CH₂-;

X and Y are independently selected from the group comprising H, F, Cl, Br, I, halogen, OH and methyl (-CH₃);

Ar is a monocyclic aromatic ring moiety or a fused bicyclic aromatic ring moiety, either of which said ring moieties is carbocyclic or heterocyclic and is optionally substituted, any such substituent being selected from the group comprising halogen, halomethyl, oxo, hydroxy, carboxy, carboxyC₁₋₁₆ alkyl, alkoxy, alkoyl, alkoyloxy, aryloxy, aryloyl, aryloyloxy, amino, C₁₋₆alkylamino, diC₁₋₆alkylamino, cyano, azide, nitro, thiol, C₁₋₆alkylthiol, sulphonyl, sulphoxide, heterocyclic groups, alkyl groups and aryl groups;

Z is selected from the group comprising H, alkyl and halogen; and

n is 0 or 1,

wherein when n is 0, Z' is -NH₂ and a double bond exists between position 3 and position 4, and

when n is 1, Z' is =O;

or a pharmaceutically acceptable derivative or metabolite of a compound of formula I the derivative which upon administration to a recipient is capable of providing directly or indirectly a compound of formula I;

with the proviso that, except where R is 2-Bu(-CH₂-CH(CH₃)₂) and one of R' and R" is H and one of R' and R" is methyl(-CH₃), when n is 1 and X and Y are both H, then Ar is not unsubstituted phenyl(-C₆H₅).

2. (Original) A compound according to claim 1 wherein R is selected from the group comprising a C₁₋₁₆ primary or secondary alkyl group, a C₅₋₇ carbocyclic aryl group or a C₁₋₆alkylC₅₋₁₁ aryl group.

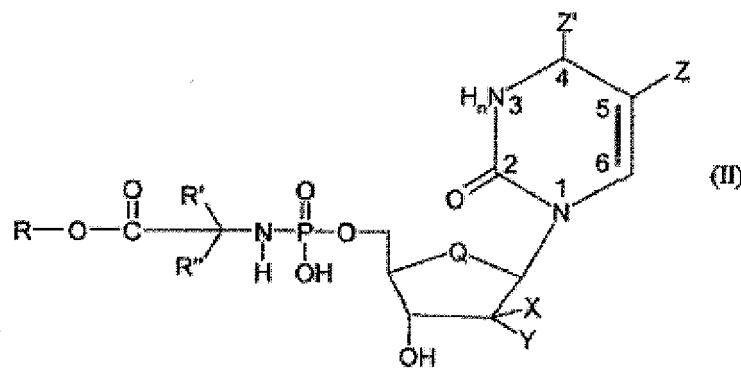
3. (Currently amended) A compound according to claim 2 wherein R is selected from the group comprising methyl(-CH₃), ethyl(-C₂H₅) and benzyl(-CH₂C₆H₅).

4. (Currently amended) A compound according to claim 3 wherein R is benzyl-CH₂C₆H₅.

5. (Previously presented) A compound according to claim 1 wherein Ar is an optionally substituted C₆ monocyclic aromatic ring moiety.

6. (Original) A compound according to claim 5 wherein Ar is selected from the group comprising -C₆H₅, pCF₃C₆H₄-, pFC₆H₄-, pNO₂C₆H₄-, pClC₆H₄- and oClC₆H₄-.

7. (Currently amended) A chemical compound having formula II:



wherein n , Q , R , R' , R'' , X , Y , Z and Z' Q is selected from the group comprising $-O-$ and $-CH_2-$,

R is selected from the group comprising alkyl, aryl and alkylaryl, and H ,

R' and R'' are independently selected from the group comprising H , alkyl and alkylaryl, or R' and R'' together form an alkylene chain so as to provide, together with the C atom to which they are attached, a cyclic system,

X and Y are independently selected from the group comprising H , F , Cl , Br , halogen, OH and methyl ($-CH_3$),

Z is selected from the group comprising H , alkyl and halogen; and

n is 0 or 1,

wherein when n is 0, Z' is NH_2 and a double bond exists between position 3 and position 4, and

when n is 1, Z' is $=O$;

with provisos that:

when n is 1, X and Y are both H , R is methyl ($-CH_3$), one of R' and R'' is H and one of R' and R'' is methyl ($-CH_3$), then Z is not $-CH=CHBr$;

when n is 1, X and Y are both H , R is methyl ($-CH_3$), one of R' and R'' is H and one of R' and R'' is phenylethyl, phenylmethyl, indol-3-ylmethyl or indol-3-ylethyl, then Z is not F ; and

when n is 0, X is not H .

8. (Previously presented) A compound according to claim 1 wherein R' and R" are, independently, selected from the group comprising H, C₁₋₆ primary, secondary and tertiary alkyl, C₁₋₃alkylC₅₋₇ aryl, or, when together they form an alkylene chain, they provide, together with the C atom to which they are attached, a C₃₋₈ carbocyclic aliphatic ring.

9. (Currently amended) A compound according to claim 8 wherein R' and R" are, independently, selected from the group comprising H, methyl, benzyl and [-]CH₂CH(CH₃)₂, or, R' and R" together with the C atom to which they are attached, provide a C₅₋₆ ring.

10. (Original) A compound according to claim 9 wherein R' and R" are each methyl.

11. (Original) A compound according to claim 9 wherein one of R' and R" is H and one of R' and R" is methyl.

12. (Currently amended) A compound according to claim 9 wherein the carbocyclic ring is R' and R", together with the C atom to which they are attached, provide a pentyl ring.

13. (Previously presented) A compound according to claim 1 wherein R' and R" correspond to the side chains of a naturally occurring amino acid.

14. (Currently amended) A compound according to claim 1 wherein Z is selected from the group comprising H, C₁₋₆alkyl, substituted C₁₋₆alkyl, C₁₋₆alkenyl, substituted C₁₋₆alkenyl, C₁₋₆alkynyl, and halogen, where any substituent present is selected from the group comprising halogen, halomethyl, oxo, hydroxyl, carboxy, carboxy C₁₋₁₆alkyl, alkoxy, alkoyl, alkoyloxy, aryloxy, aryloyl, aryloyoxy, amino, C₁₋₆alkylamino, diC₁₋₆alkylamino, cyano, azide, nitro, thiol, C₁₋₆alkylthiol, sulphonyl, sulphoxide, heterocyclic groups, alkyl groups and aryl groups.

15. (Previously presented) A compound according to claim 1 wherein Q is O.

16. (Previously presented) A compound according to claim 1 wherein when n is 1, each of X and Y is H.

17. (Previously presented) A compound according to claim 1 wherein when n is 0, each of X and Y is F.

18. (Previously presented) A compound according to claim 1 wherein when n is 0, X is OH and Y is H.

19. (Previously presented) A compound according to claim 1 wherein when n is 0, X is H and Y is OH.

20. (Currently amended) A compound selected from the group comprising:

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[phenyl-(ethoxy-L-alaninyl)]-phosphate (CPF-3)

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[phenyl-(benzoxo-L-alaninyl)]-phosphate (CPF-2)

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[para-fluorophenyl-(methoxy-L-alaninyl)]-phosphate (CPF-5);

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[para-fluorophenyl-(ethoxy-L-alaninyl)]-phosphate (CPF-6);

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[para-fluorophenyl-(benzoxo-L-alaninyl)]-phosphate (CPF-7);

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[para-nitrophenyl-(methoxy-L-alaninyl)]-phosphate (CPF-10);

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[para-nitrophenyl-(ethoxy-L-alaninyl)]-phosphate (CPF-9);

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[para-nitrophenyl-(benzoxo-L-alaninyl)]-phosphate (CPF-8);

(E)-5-(2-bromovinyl)-2'-deoxyuridine-5'-[para-(trifluoromethyl)-phenyl-(methoxy-L-alaninyl)]-phosphate (CPF-15);

(E)-5-(2-bromovinyl)-2'-deoxyuridine-5'-[para-(trifluoromethyl)-phenyl-(ethoxy-L-alaninyl)]-phosphate (CPF-25);

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[para-trifluorophenyl-(benzoxo-L-alaninyl)]-phosphate (CPF-4);

(E)-5-(2-bromovinyl)-2'-deoxyuridine-5'-[4-chlorophenyl-(methoxy-L-alaninyl)]-phosphate (CPF 43);

(E)-5-(2-bromovinyl)-2'-deoxyuridine-5'-[4-chlorophenyl-(ethoxy-L-alaninyl)]-phosphate (CPF 44);

(E)-5-(2-bromovinyl)-2'-deoxyuridine-5'-[4-chlorophenyl-(benzoxy-L-alaninyl)]-phosphate (CPF 42);

(E)-5-(2-bromovinyl)-2'-deoxyuridine-5' [phenyl (methoxy- α,α -dimethylglyciny)]-phosphate (CPF 26)

(E)-5-(2-bromovinyl)-2'-deoxyuridine-5' [phenyl (ethoxy- α,α -dimethylglyciny)]-phosphate (CPF 27)

(E)-5-(2-bromovinyl)-2'-deoxyuridine-5' [phenyl (benzoxy- α,α -dimethylglyciny)]-phosphate (CPF 14)

(E)-5-(2-bromovinyl)-2'-deoxyuridine-5'-[4-nitrophenyl-(methoxy- α,α -dimethylglyciny)]-phosphate (CPF 45);

(E)-5-(2-bromovinyl)-2'-deoxyuridine-5'-[4-nitrophenyl-(ethoxy- α,α -dimethylglyciny)]-phosphate (CPF 46);

(E)-5-(2-bromovinyl)-2'-deoxyuridine-5'-[4-nitrophenyl-(benzoxy- α,α -dimethylglyciny)]-phosphate (CPF 47);

(E)-5-(2-bromovinyl)-2'-deoxyuridine-5'-[4-chlorophenyl-(methoxy- α,α -dimethylglyciny)]-phosphate (CPF 42);

(E)-5-(2-bromovinyl)-2'-deoxyuridine-5'-[4-chlorophenyl-(ethoxy- α,α -dimethylglyciny)]-phosphate (CPF 43);

(E)-5-(2-bromovinyl)-2'-deoxyuridine-5'-[4-chlorophenyl-(benzoxy- α,α -dimethylglyciny)]-phosphate (CPF 44);

(E)-5-(2-bromovinyl)-2'-deoxyuridine-5'-[para-(trifluoromethyl)-phenyl-(benzoxy- α,α -dimethylglyciny)]-phosphate (CPF 48);

(E)-5-(2-bromovinyl)-2'-deoxyuridine-5' [phenyl (methoxy- α,α -cycloleucinyl)]-phosphate

(CPF 16)

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[phenyl-(ethoxy- α,α -cycloleucinyl)]-phosphate

(CPF 17)

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[phenyl-(benzoxo- α,α -cycloleucinyl)]-phosphate

(CPF 18)

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[para-nitrophenyl-(methoxy- α,α -cycloleucinyl)]-phosphate (CPF 19);

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[para-nitrophenyl-(ethoxy- α,α -cycloleucinyl)]-phosphate (CPF 20);

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[para-nitrophenyl-(benzoxo- α,α -cycloleucinyl)]-phosphate (CPF 21);

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[para-fluorophenyl-(methoxy- α,α -cycloleucinyl)]-phosphate (CPF 22);

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[para-fluorophenyl-(ethoxy- α,α -cycloleucinyl)]-phosphate (CPF 23);

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[para-fluorophenyl-(benzoxo- α,α -cycloleucinyl)]-phosphate (CPF 24);

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[para-chlorophenyl-(methoxy- α,α -cycloleucinyl)]-phosphate (CPF 32);

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[para-chlorophenyl-(ethoxy- α,α -cycloleucinyl)]-phosphate (CPF 33);

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[phenyl-(methoxy-L-phenylalaninyl)]-phosphate (CPF 36)

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[para-chlorophenyl-(benzoxo- α,α -cycloleucinyl)]-phosphate (CPF 34);

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[para-trifluorophenyl-(methoxy- α,α -cycloleucinyl)]-phosphate (CPF 28);

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[para-trifluorophenyl-(ethoxy- α,α -cycloleucinyl)]-phosphate (CPF 29);

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[para-trifluorophenyl-(benzoxy- α,α -cycloleucinyl)]-phosphate (CPF 30);

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[phenyl-(methoxy-L-phenylalaninyl)]-phosphate (CPF 36)

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[phenyl-(methoxy-L-leucinyl)]-phosphate (CPF 35)

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[phenyl-(benzoxy-L-leucinyl)]-phosphate (CPF 37)

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[para-nitrophenyl-(benzoxy-L-leucinyl)]-phosphate (CPF 38);

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[para-chlorophenyl-(benzoxy-L-leucinyl)]-phosphate (CPF 39);

(E)-5-(2-Bromovinyl)-2'-deoxyuridine-5'-[phenyl-(2-butyl-L-alaninyl)]-phosphate
Gemcitabine-[phenyl-(benzoxy-L-alaninyl)]-phosphate (CPF 34);

Gemcitabine-[para-chlorophenyl-(benzoxy-L-alaninyl)]-phosphate (CPF 40) and
Gemcitabine-[para-chlorophenyl-(benzoxy- α,α -dimethylglycinyl)]-phosphate
(CPF 41).

21. (Currently amended) A compound according to claim 1 for use in a method of treatment, preferably in the prophylaxis or the treatment of cancer, with the proviso that when n is 1, X and Y are both H, one of R' and R" is H and one of R' and R" is methyl (CH₃), R is 2-Bu(-CH₂-CH(CH₃)₂) or R is benzyl (-CH₂C₆H₅), then Ar can be unsubstituted phenyl (C₆H₅).

22. (Currently amended) Use of a compound according to claim 1 in the manufacture comprising the step of manufacturing of a medicament for the prophylaxis or treatment of cancer comprising the compound of claim 1, with the proviso that when n is 1, X and Y are both H, one of R' and R" is H and one of R' and R" is methyl (CH₃), R is 2-Bu(-CH₂-CH(CH₃)₂) or R is benzyl (-CH₂C₆H₅), then Ar can be unsubstituted phenyl

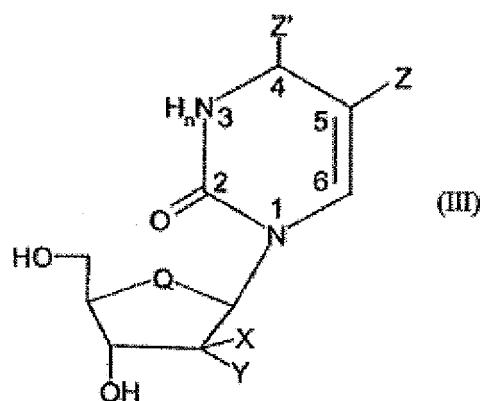
(-C₆H₅).

23. (Currently amended) A method of prophylaxis or for the treatment of cancer comprising administration to a patient in need of such treatment an effective dose of a compound according to claim 1 ~~with the proviso that when n is 1, X and Y are both H, one of R' and R" is H and one of R' and R" is methyl (-CH₃), R is 2-Bu (-CH₂-CH-CH₃)₂ or R is benzyl (-CH₂C₆H₅), then Ar can be unsubstituted phenyl (-C₆H₅).~~

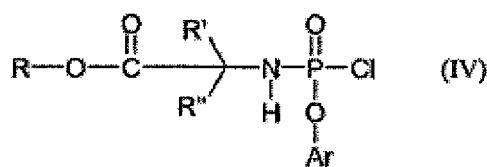
24. (Currently amended) A pharmaceutical composition comprising a compound according to claim 1 ~~in combination with~~ a pharmaceutically acceptable carrier, diluent or excipient.

25. (Previously presented) A method of preparing a pharmaceutical composition comprising the step of combining a compound according to claim 1 with a pharmaceutically acceptable excipient, carrier or diluent.

26. (Original) A process for the preparation of a compound of formula I according to claim 1, the process comprising reacting of a compound of formula (III):



with a compound of formula (IV)



27. (Previously presented) A compound according to claim 7 wherein R' and R'' are, independently, selected from the group comprising H, C₁₋₆ primary, secondary and tertiary alkyl, C₁₋₃alkylC₅₋₇ aryl, or, when together they form an alkylene chain, they provide, together with the C atom to which they are attached, a C₃₋₈ carbocyclic aliphatic ring.

28. (Currently amended) A compound according to claim 27 wherein R' and R'' are, independently, selected from the group comprising H, methyl, benzyl and [[-]]CH₂CH(CH₃)₂, or, R' and R'' together with the C atom to which they are attached, provide a C₅₋₆ ring.

29. (Previously presented) A compound according to claim 28 wherein R' and R'' are each methyl.

30. (Previously presented) A compound according to claim 28 wherein one of R' and R'' is H and one of R' and R'' is methyl.

31. (Currently amended) A compound according to claim 28 wherein the carbocyclic ring is R' and R'', together with the C atom to which they are attached provide a pentyl ring.

32. (Previously presented) A compound according to claim 7 wherein R' and R'' correspond to the side chains of a naturally occurring amino acid.

33. (Currently amended) A compound according to claim 7 wherein Z is selected from the group comprising H, C₁₋₆alkyl, substituted C₁₋₆alkyl, C₁₋₆alkenyl, substituted C₁₋₆alkenyl, C₁₋₆alkynyl, and halogen where any substituent present is selected from the group comprising halogen, halomethyl, oxo, hydroxyl, carboxy, carboxyC₁₋₁₆alkyl, alkoxy, alkoyl, alkoyloxy, aryloxy, aryloyl, aryloyloxy, amino,

C₁₋₆alkylamino, diC₁₋₆alkylamino, cyano, azide, nitro, thiol, C₁₋₆alkylthiol, sulphonyl, sulphoxide, heterocyclic groups, alkyl groups and aryl groups.

34. (Previously presented) A compound according to claim 7 wherein Q is O.
35. (Previously presented) A compound according to claim 7 wherein when n is 1, each of X and Y is H.
36. (Previously presented) A compound according to claim 7 wherein when n is 0, each of X and Y is F.
37. (Previously presented) A compound according to claim 7 wherein when n is 0, X is OH and Y is H.
38. (Previously presented) A compound according to claim 7 wherein when n is 0, X is H and Y is OH.
39. (Previously presented) A pharmaceutical composition comprising a compound according to claim 7 in combination with a pharmaceutically acceptable carrier, diluent or excipient.
40. (Previously presented) A method of preparing a pharmaceutical composition comprising the step of combining a compound according to claim 7 with a pharmaceutically acceptable excipient, carrier or diluent.